

AME40463 : Team Concept Design Documentation Evaluation Form

Team: _____

Total: _____

Grading Summary (Max: 205 pts - Draft Version)

- | | |
|--|---------------|
| 1. Abstract (Max: 15 pts) | Rating: _____ |
| 2. Project Design Executive Summary (Max: 60 pts) | Rating: _____ |
| 3. Project Design Supporting Information (Max: 30 pts) | Rating: _____ |
| 4. Supporting Figures and Graphics (Max: 45 pts) | Rating: _____ |
| 5. Animations, Videos and other Graphics (Max: 0 pts) | Rating: _____ |
| 6. Project Nugget (Max: 10 pts) | Rating: _____ |
| 7. Other Useful Technical Information (Max Bonus: 10 pts) | Rating: _____ |
| 8. Overall Presentation and Organization (Max: 35 pts) | Rating: _____ |
| 9. Sections to be added in Final Version: (Max: 55 pts) | Rating: _____ |

1. Abstract (Max Possible: 15 pts) Rating: _____

- a. Project Description (Max: 5 pts)
 - 0 - Not included
 - 2 - Vague description. More fluff than useful content, includes unrelated issues related to the course not the project.
 - 5 - Concise statement of the project scope and goals (meets 100 word limit)

- b. Primary outcomes of concept development effort (Max: 10 pts)
 - 0 - Not included
 - 4 - Some description of the features and operation of the product/system but not well organized or important features not explicitly identified. More fluff than useful content using only vague, qualitative terms.
 - 7 - Description of the features and operation of the product/system but just a “list” without any effort to state the key design issues/features.
 - 10 - Concise description of the key technical issues/features associated with the product and a statement describing its feasibility.

2. Executive Summary (Max Possible: 60 pts) Rating: _____

- a. Product description (Max: 15 pts)
 - 0 - Not included
 - 4 - Some description of the features and operation of the product/system but not well organized or important features not explicitly identified. More fluff than useful content includes unrelated issues related to the project or course.
 - 8 - Description of the features and operation of the product/system and important features identified but ineffective justification as to why they are important

- 11 - Description of the proposed product - not simply the prototype - that specifically describes key features and effective justification as to why they are important
 - 15 - Concise description of the proposed product, its characteristics and operation - not simply the prototype - that specifically describes key features and effective justification as to why they are important and what was done to insure their effective integration into the design
- b. Design Relevance (Max: 10 pts)
- 0 - Not included
 - 3 - Some general, qualitative statements but not clearly identified as to their source or relative importance
 - 5 - Statements as to how the product/design would fit a need and some attention to the competition
 - 7 - Description of how the product/design would fit a need and some attention to the competition with evidence (data) that the need or relevance was the identified, but mostly the design group's opinions.
 - 10 - Concise description of how the product/design would fit a need and some attention to the competition with *specific* evidence (data) that the need or relevance was the identified with more than just the design group's opinions.
- c. Design Process used to develop the Product (Max: 10 pts)
- 0 - Not included
 - 3 - More a description of the course than the process used to develop the design
 - 5 - Statements of the process used and key steps and decision points in the process
 - 7 - Statements of the process used and key steps and decision points in the process. Information on how resources were allocated, schedules set and engineering methods used in the decision making process.
 - 10 - Concise and effective description of the process used and key steps and decision points in the process. Information on how resources were allocated, schedules set and engineering methods used in the decision making process.
- d. Options considered (Max: 5 pts)
- 0 - No competing concepts are described.
 - 3 - Sketches without labels or inconsistent presentation of competing options with little information on the characteristics or key features of the concepts.
 - 5 - Visually effective sketches, with appropriate features labeled, that illustrate principal features of each of the competing concepts. Consistent presentation of key features and engineering/technical challenges associated with each option. Tabular format recommended.
- e. Solutions selected with rationale (Max: 10 pts)
- 0 - Not included
 - 3 - General description of the product/system that was selected for study.
 - 7 - Description of the product/system that was selected for study with key components or design elements/features specified.
 - 10 - Concise description of the product/system that was selected for study with key components or design elements/features specified. Specific statements of the anticipated strengths and possible weaknesses in the product and specific references to key quantitative analysis/results from trade studies.
- f. Implementation details or feasibility assessment using the prototype/s (Max: 0 pts in draft)
[Not included in DRAFT - Points Added to FINAL version]
- 0 - A space holder should be included for the description of the prototype, its operation and lessons learned. This element of the documentation will be given credit in the final proposal grade. Please note that when this section is included, the Executive Summary must still comply with the total length requirements.

- g. Conclusions reached - Is the concept feasible? (Max: 0 pts in draft)
[Not included in DRAFT - Points Added to FINAL version of documentation]
 0 - A space holder should be included for the final recommendations on the feasibility of the proposed product based upon the study conducted. This element of the documentation will be given credit in the final proposal grade. Please note that when this section is included, the Executive Summary must still comply with the total length requirements.
- h. Format (Max: 10 pts)
 0 - No readily identifiable sections - a single block of continuous text - exceeds 6 page limit.
 5 - Meets length of text requirement, useful illustrations, sections clearly marked but contains some typos and not well presented.
 10 - Well organized, prescribed length of text and professional (business quality format) and useful illustrations, sections clearly marked. Would serve as a stand-alone section to describe the project and product.

3. Project Design Supporting Information (Max Possible: 30 pts) Rating: _____

This section should include expanded information to provide details of the design as described in the Executive summary.

- a. Operation of the system/product and user interfaces (Max: 15 pts)
 0 - No information provided on the operation of the system/product.
 5 - Description of the manner in which the system functions.
 10 - Description of the manner in which the system functions and is operated.
 15 - Concise description of the manner in which the system functions and is operated including off-design issues and safety concerns.
- b. Engineering Trade Studies (Max: 10 pts)
 0 - Not included
 5 - Simply attached as independent links
 10 - Organized in a consistent fashion with some brief overview of the role each played and the effects of each on the final design.
- c. Preliminary Design Reviews (Max: 5 pts)
 0 - Not included
 3 - Some but not all attached as independent links
 5 - All attached as independent links, organized in a list or tabular format.
- d. CDR - Concept Design Review Visual and Summary Comments (Max: 0 pts - in draft)
[Not included in DRAFT - Points Added to FINAL version of documentation]
 0 - A space holder should be included for the team's viewgraphs(slides) from the Critical Design Review and brief discussion of issues raised during the CDR. This element of the proposal will be given credit in the final proposal grade.
- e. Task Tracking Summaries (Max: 0 pts - in draft)
[Not included in DRAFT - Points Added to FINAL version of documentation]
 0 - A space holder should be included for the information regarding the allocation of time resources to the project. This element of the proposal will be given credit in the final proposal grade.

4. Supporting Figures and Graphics (CAD): (Max Possible: 45 pts) Rating: _____

- a. Digital representation of component parts (Max: 15 pts)
- 0 - No individual parts included.
 - 5 - CAD drawings of most parts but no specific organization of parts by number and no summary bill of materials
 - 10 - Includes a master “bill of materials” that includes a listing of all parts and their sources. All in-house fabricated part drawings are included.
 - 15 - Includes a master “bill of materials” that includes an organized listing of all parts and their sources. Readily identifies all out-sourced components and parts fabricated from raw materials. All in-house fabricated part drawings included.
- b. Digital representation of important sub-assemblies (Max: 15 pts)
- 0 - No sub-assemblies included.
 - 5 - Simply a series of drawings without labels. Assemblies include all in-house designed components and some out-sourced parts.
 - 10 - All appropriate assembly drawings with useful labels but no attempt to differentiate between in-house developed and out-sourced parts.
 - 15 - Assembly drawing include labels and readily illustrate the relationship between elements. Assemblies include all in-house designed components and all out-sourced parts represented in a fashion that illustrates their proper external shapes and interfaces (detailed surface features on out-sourced parts are not required).
- c. Digital representation of complete product/system (Max: 15 pts)
- 0 - No complete assemblies included.
 - 5 - A single complete assembly drawing without labels.
 - 10 - One or two complete assembly drawing with labels.
 - 15 - A series of complete assembly drawings with useful labels that provides various perspectives on the product/system. Shaded or colored in an effective and visually appealing fashion appropriate for “marketing”.

5. Animations, videos or other graphics (Max Possible: 0 pts) Rating: _____

[Not included in DRAFT - Points Added to FINAL version of documentation]

- 0 - A space holder should be included for graphics or videos that illustrate the form and function of the proposed product. This element of the proposal will be given credit in the final proposal grade.

6. Project Nugget (Max Possible: 10 pts) Rating: _____

- 0 - Not included
- 5 - A single page summary with project title, abstract and graphic but not presented in a manner that it could be used effectively in a presentation (print too small, etc.).
- 10 - A one page summary of the project including the project title, abstract, and a representative graphic - in the format of a single “powerpoint” slide.

7. Other Useful Technical Information (Max Possible: 10 pts) Rating: _____

Other technical information deemed appropriate by the design team that they believe would enhance the understanding of the design or the project.

- 0 - Not included
- 10 - Points at the discretion of the reviewer

8. Overall Presentation and Organization (Max Possible: 35 pts) Rating: _____

- a. Organization (Max: 10 pts)
- 0 - No apparent attempt at providing a framework for the user
 - 3 - Some basic organization and structure but it varies from link to link.
 - 7 - Most of the site is well organized and most major sections have an introduction or some other element that assists the reader.
 - 10 - Entire site is well organized and each major section has an introduction.
- b. Ease of Navigation (Max: 10 pts)
- 0 - No attempt to make website easily navigable
 - 3 - Links missing, allowing user to get stranded on sub pages, or do not clearly stand out from surrounding text (eg. Unlabeled Rollover Links). Complicated and convoluted hierarchy of pages. Page only functions on a specific web browser.
 - 7 - Most of the documentation is easy to find via some sort of a navigation bar. Links are easily identified and efforts are made to ensure user can easily get back and fourth from all pages.
 - 10 - Very effective use of a navigation bar with information organized under minimal amount of appropriate categories. All documentation is easily retrieved. Links are easily identified and efforts are made to ensure user can easily get back and fourth from all pages. All linked documents and movies function properly.
- c. General presentation of graphical content (Max: 5 pts)
- 0 - Inconsistent graphics and unclear figures.
 - 3 - Reasonable graphics, though not necessarily consistent through most of the documentation.
 - 5 - Consistent graphics through most of the site and all figures titled. Graphics do not distract attention away from content.
- d. Overall assessment of quality of written materials (Max: 10 pts)
- 0 - Poor proofreading, numerous typos, sections incomplete or mis-labeled.
 - 3 - Apparent lack proofreading and numerous typos.
 - 5 - Some proofreading apparent, many sections well written.
 - 10 - Concise, well written with attention to important details.

8. Sections to be added in Final Version (Max Possible: 55 pts) Rating: _____

- Section 2.f : Implementation details or feasibility assessment using the prototype/s (Max: 15 pts)
- 0 - Not included
 - 5 - Simple statements regarding development of a prototype with only qualitative insight into lessons learned in developing the prototype
 - 10 - Statements provided on the development of the prototype and its operation and impact on the proposed design but without any indication of key issues
 - 15 - Concise description of influence of the development of the prototype and its operation and impact it had on the proposed design with specific indication of the key ways in which lessons-learned would influence the design
- Section 2.g : Conclusions reached (Max: 10 pts)
- 0 - Not included
 - 5 - Simple statements on the features and feasibility of proposed design
 - 10 - Concise description of final proposed product and its “engineering” feasibility in the context of the intended purposes established for the project and the knowledge gained in the design process.

Section 3.d : CDR - Concept Design Review Visuals and Summary Comments (Max: 10 pts)

- 0 - Not included
- 8 - Complete set of visuals from the CDR
- 10 - A complete set of visuals from the CDR and a paragraph describing comments or important questions addressed in preparation for or presentation of the CDR

Section 3.e : Task Tracking Summaries (Max: 10 pts)

- 0 - Not included
- 5 - Just raw weekly data included but without any summary of totals provided
- 10 - Weekly data summaries plus an effective project summary, organized in a consistent format and linked to website or displayed on separate pages (similar to the PDR's).

Section 5 : Animations, videos or other graphics (Max: 10 pts)

- 0 - None
- 5 - Pictures of final prototype
- 10 - Pictures and video with supporting information that highlight operation and special features of the product